



Çankırı Karatekin University
Graduate School of Health Sciences



Master of Science Thesis

**ASSESSMENT OF THE PHYSICAL ACTIVITY AND DIET
CAPABILITY OF NURSES AT AL KARAMA TEACHING
HOSPITAL IN WASIT CITY / IRAQ**

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HOSPITAL IN WASIT CITY / IRAQ**

BY

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**The Institute of Health Sciences
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**SUPERVISOR
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ACCEPTANCE AND APPROVAL

Zahraa Aliakbar Tawfeeq TAWFEEQ, the graduate student of The Institute of Health Sciences with the student number of 208205266, has successfully presented her thesis entitled “**Assessment of the Physical Activity and Diet Capability of Nurses at Al Karama Teaching Hospital in Wasit City / Iraq**” before the jury whose signatures are below, after fulfilling all of the requirements determined by the relevant regulations for the degree of Master of Science:

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ETHICS STATEMENT

The thesis entitled “Assessment of the Activity Capability and Diet of Nurses at Al Karama Teaching Hospital in Wasit City / Iraq” which was prepared and presented as a thesis was written by myself and in accordance with the scientific, academic rules and ethical conduct. The idea/hypothesis of my thesis solely belongs to my supervisor and me. The research pertaining to the thesis was conducted by myself and therefore, all of the used sentences and interpretations within the work belongs to me.

I declare the aforementioned issues to be correct.



Signature

03/10/2023

Zahraa Aliakbar TAWFEEQ

ABSTRACT

ASSESSMENT OF THE PHYSICAL ACTIVITY AND DIET CAPABILITY OF NURSES AT AL KARAMA TEACHING HOSPITAL IN WASIT CITY / IRAQ

Zahraa Aliakbar TAWFEEQ

Master of Science in Nursing

Asst. Prof. Dr. Tuğba ARSLAN

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Physical activity and an adequate and balanced diet are two important elements of health. It seems that it is not frequently applied in society. They are people with high awareness of physical activity and a healthy diet, which are the keys to a healthy life for nurses. However, when it comes to living habits, some individual and environmental conditions need to be considered together, as well as awareness. This study highlights the importance of a healthy diet and physical exercise in preventing malnutrition and diet-related diseases. It emphasizes the shift in dietary patterns due to increased consumption of processed food and changing lifestyles. The abstract also discusses the impact of unhealthy lifestyles on nurses' own health, emphasizing the high rates of obesity and smoking among nurses. It emphasizes the need for nurses to prioritize their own nutrition and physical health. Additionally, the abstract addresses the global issue of physical inactivity and its contribution to cardiovascular disease and other chronic illnesses. It highlights the significant burden of physical inactivity and its financial implications. The role of nurses in promoting healthy lifestyles and educating patients about nutrition is also mentioned. Finally, the abstract acknowledges the challenges of addressing unhealthy behaviors in both clinical and public health settings. This body of research underscores the critical importance of a healthy diet and regular physical activity in maintaining overall well-being and preventing various diseases. It highlights how societal shifts, such as increased processed food consumption and changing lifestyles, have led to less healthy dietary choices among nurses. Additionally, it sheds light on the alarming health trends among nurses, who, despite their role in promoting patient health, often neglect their own health and adopt unhealthy habits. The research

also emphasizes the significance of physical activity capability, both for nurses' health and the broader healthcare system, and reveals the prevalence of physical inactivity globally. Nurses, as a substantial part of the healthcare workforce, are especially affected by these challenges. Furthermore, the studies advocate for assessing individuals' capabilities in terms of physical activity capability and a healthy diet, recognizing the complex interplay of personal and environmental factors. Nurses emerge as key players in educating patients about nutrition, given their continuous presence and accessibility in healthcare settings. In summary, these findings emphasize the urgency of addressing unhealthy dietary habits and physical inactivity, not only on an individual level but also as public health challenges with far-reaching consequences. The multifaceted nature of these issues underscores the need for comprehensive strategies that consider both personal choices and societal factors in promoting healthier lifestyles and reducing the burden of diseases. The main purpose of this research is to assess the physical activity capability and diet capability of nurses and to find out the relationship between physical activity capability, diet capability, and the socio-demographic characteristics of nurses. The research was conducted at Al-Karama Teaching Hospital in Wasit City, Iraq. It was held between 5.2.2023 and 15.3.2023. The type of research is descriptive-cross-sectional. 132 nurses were randomly selected for the research. The study's dependent variables are the nurses' age, gender, body mass index, educational status, and the department they work in. The independent variables of the research are the physical activity and diet capacity of nurses. The physical activity and diet capability scale developed by Ferrer *et al.* was used to measure nurses' physical activity and nutritional capability data. The scale consists of 25 items. The validity of the questionnaire was verified in Arabic using forward and backward translations by Alhaji 2021. IBM SPSS version 25.0 was used to analyze the data descriptively and inferentially. In this study, the average diet capability score of nurses was 48.39 ± 7 , and the physical activity capability score was found to be 34.61 ± 7.53 . When classified according to demographic characteristics, physical activity capability and diet capability scores were found to be similar in age groups, departments of study, and body mass index classifications. However, the education level of male nurses is higher than that of female nurses. The study's findings provide valuable insights into nurses' health capabilities. It was observed that nurses had a moderate level of diet

capability, with the highest scores related to diet opportunities. However, their physical activity capability was generally low, with the neighborhood aspect having the highest score within this category. Importantly, there were significant differences between genders, with males exhibiting higher physical activity capabilities than females. Education levels also played a role, impacting physical activity convenience. Surprisingly, nurses with and without chronic diseases had similar overall diet and physical activity capabilities, although those with chronic conditions reported more barriers to physical activity. Additionally, nurses across different BMI categories showed similar levels of capability in both diet and physical activity. The study recommends promoting educational training workshops aimed at improving nurses' diet and preparing educational programs on the dangers and complications of bad eating habits, body lethargy, and its harm to health and nursing care performance. It is necessary to include nursing staff in sports programs and encouraging them to increase physical activity, which reflects positively on their health and appearance. Increasing health awareness about physical activity for women through educational courses, providing time to exercise, and also encouraging joining sports clubs to increase physical activity to improve physical health. Guiding nurses who suffer from chronic diseases about specific exercise programs that suit their health condition. Providing an educational package, brochure, or movie to each nurse. The study proposes that further specialized research in the field of nurses' activity capability and diet of nurses be conducted. These findings underscore the importance of targeted interventions to improve nurses' health and well-being, especially regarding physical activity capability and gender-specific considerations.

2023, 54 pages

Keywords: Assessment, Diet, Nursing, Physical activity.

ÖZET

WASIT CITY / IRAK'TAKI AL KARAMA EĞİTİM HASTANESİNDEKİ HEMŞİRELERİN AKTİVİTE VE BESLENME YETENEKLERİNİN DEĞERLENDİRİLMESİ

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Hemşirelik, Yüksek Lisans

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Ekim 2023

Fiziksel aktivite ile yeterli ve dengeli beslenme sağlığın iki önemli unsurudur. Toplumda sıklıkla uygulanmadığı görülmektedir. Hemşireler için sağlıklı bir yaşamın anahtarı olan fiziksel aktivite ve sağlıklı beslenme konusunda farkındalığı yüksek kişilerdir. Ancak yaşam alışkanlıkları söz konusu olduğunda farkındalığın yanı sıra bazı bireysel ve çevresel koşulların da birlikte ele alınması gerekiyor. Bu çalışma, yetersiz beslenme ve diyetle ilişkili hastalıkların önlenmesinde sağlıklı beslenme ve fiziksel egzersizin önemini vurgulamaktadır. İşlenmiş gıda tüketiminin artması ve değişen yaşam tarzları nedeniyle beslenme alışkanlıklarındaki değişimi vurgulamaktadır. Özet ayrıca, sağlıksız yaşam tarzlarının hemşirelerin kendi sağlığı üzerindeki etkisini tartışmakta ve hemşireler arasında yüksek obezite ve sigara içme oranlarına vurgu yapmaktadır. Hemşirelerin kendi beslenme ve fiziksel sağlıklarına öncelik vermeleri gerektiği vurgulanmaktadır. Özet ayrıca, küresel bir sorun olan fiziksel hareketsizliğe ve bunun kardiyovasküler hastalıklara ve diğer kronik hastalıklara olan katkısına değinmektedir. Fiziksel hareketsizliğin önemli yükünü ve mali sonuçlarını vurgulamaktadır. Sağlıklı yaşam tarzlarının teşvik edilmesinde ve hastaların beslenme konusunda eğitilmesinde hemşirelerin rolüne de değinilmektedir. Son olarak, özet hem klinik hem de halk sağlığı ortamlarında sağlıksız davranışları ele almanın zorluklarını kabul etmektedir. Bu araştırma, sağlıklı beslenme ve düzenli fiziksel aktivitenin genel sağlığın korunması ve çeşitli hastalıkların önlenmesindeki kritik öneminin altını çizmektedir. İşlenmiş gıda tüketiminin artması ve yaşam tarzlarının değişmesi gibi toplumsal değişimlerin hemşireler arasında nasıl daha az sağlıklı beslenme tercihlerine yol açtığını vurgulamaktadır. Ayrıca, hasta sağlığını geliştirmedeki rollerine rağmen,

genellikle kendi sađlıklarını ihmal eden ve sađlıksız alışkanlıklar edinen hemşireler arasındaki endişe verici sađlık eğilimlerine ışık tutuyor. Araştırma ayrıca fiziksel aktivite kabiliyetinin hem hemşirelerin sađlığı hem de daha geniş sađlık sistemi için önemini vurgulamakta ve küresel olarak fiziksel hareketsizliğin yaygınlığını ortaya koymaktadır. Sađlık işgücünün önemli bir parçası olan hemşireler, bu zorluklardan özellikle etkilenmektedir. Ayrıca, çalışmalar, kişisel ve çevresel faktörlerin karmaşık etkileşimini kabul ederek, bireylerin fiziksel aktivite kapasitesi ve sađlıklı beslenme açısından yeteneklerinin değerlendirilmesini savunmaktadır. Hemşireler, sađlık ortamlarındaki sürekli varlıkları ve erişilebilirlikleri göz önüne alındığında, hastaların beslenme konusunda eğitilmesinde kilit oyuncular olarak ortaya çıkmaktadır. Özetle, bu bulgular sađlıksız beslenme alışkanlıklarının ve fiziksel hareketsizliğin yalnızca bireysel düzeyde deđil, aynı zamanda geniş kapsamlı sonuçları olan halk sađlığı sorunları olarak ele alınmasının aciliyetini vurgulamaktadır. Bu sorunların çok yönlü doğası, daha sađlıklı yaşam tarzlarının teşvik edilmesi ve hastalık yükünün azaltılmasında hem kişisel tercihleri hem de toplumsal faktörleri dikkate alan kapsamlı stratejilere duyulan ihtiyacın altını çizmektedir. Bu araştırmanın temel amacı, hemşirelerin fiziksel aktivite kabiliyetlerini ve diyet kabiliyetlerini değerlendirmek ve fiziksel aktivite kabiliyeti, diyet kabiliyeti ve hemşirelerin sosyo-demografik özellikleri arasındaki ilişkiyi ortaya çıkarmaktır. Araştırma, Irak'ın Wasit şehrindeki Al-Karama Eğitim Hastanesi'nde gerçekleştirilmiştir. Araştırma 5.2.2023 ile 15.3.2023 tarihleri arasında gerçekleştirilmiştir. Araştırmanın türü tanımlayıcı-kesitseldir. Araştırma için 132 hemşire rastgele seçilmiştir. Araştırmanın bağımlı deđişkenleri hemşirelerin yaşı, cinsiyeti, beden kitle indeksi, eğitim durumu ve çalıştıkları bölümdür. Araştırmanın bağımsız deđişkenleri ise hemşirelerin fiziksel aktivite ve diyet kapasiteleridir. Hemşirelerin fiziksel aktivite ve beslenme kapasitesi verilerini ölçmek için Ferrer ve arkadaşları tarafından geliştirilen fiziksel aktivite ve beslenme kapasitesi ölçeđi kullanılmıştır. Ölçek 25 maddeden oluşmaktadır. Anketin geçerliliđi, Alhaji 2021 tarafından ileri ve geri çeviriler kullanılarak Arapça olarak dođrulanmıştır. Verileri tanımlayıcı ve çıkarımsal olarak analiz etmek için IBM SPSS sürüm 25.0 kullanılmıştır. Bu çalışmada hemşirelerin diyet yeterlilik puan ortalaması $48,39 \pm 7$, fiziksel aktivite yeterlilik puan ortalaması ise $34,61 \pm 7,53$ olarak bulunmuştur. Demografik özelliklere göre sınıflandırıldığında, fiziksel aktivite yeterliliđi ve diyet yeterliliđi puanları yaşı

grupları, çalışılan bölümler ve beden kitle indeksi sınıflandırmalarında benzer bulunmuştur. Bununla birlikte, erkek hemşirelerin eğitim düzeyi kadın hemşirelerden daha yüksektir. Çalışmanın bulguları, hemşirelerin sağlık yetenekleri hakkında değerli bilgiler sağlamaktadır. Hemşirelerin orta düzeyde bir diyet kabiliyetine sahip olduğu ve en yüksek puanların diyet fırsatlarıyla ilgili olduğu görülmüştür. Bununla birlikte, fiziksel aktivite kabiliyetleri genel olarak düşüktür ve bu kategoride en yüksek puanı komşuluk boyutu almıştır. Daha da önemlisi, cinsiyetler arasında önemli farklılıklar vardı; erkekler kadınlara göre daha yüksek fiziksel aktivite kabiliyeti sergiliyordu. Eğitim seviyeleri de fiziksel aktivite uygunluğunu etkileyen bir rol oynamıştır. Şaşırtıcı bir şekilde, kronik hastalığı olan ve olmayan hemşireler benzer genel diyet ve fiziksel aktivite kabiliyetlerine sahipken, kronik hastalığı olanlar fiziksel aktivite önünde daha fazla engel olduğunu bildirmiştir. Ayrıca, farklı BMI kategorilerindeki hemşireler hem diyet hem de fiziksel aktivite konusunda benzer yetenek seviyeleri göstermiştir. Çalışma, hemşirelerin diyetini iyileştirmeyi amaçlayan eğitim atölyelerinin teşvik edilmesini ve kötü beslenme alışkanlıklarının tehlikeleri ve komplikasyonları, vücut uyuşukluğu ve bunun sağlığa ve hemşirelik bakım performansına zararları hakkında eğitim programları hazırlanmasını önermektedir. Hemşirelik personelinin spor programlarına dahil edilmesi ve sağlıklarına ve görünümüne olumlu yansıyan fiziksel aktiviteyi artırmaya teşvik edilmesi, eğitim kursları yoluyla kadınlar için fiziksel aktivite konusunda sağlık bilincinin artırılması, egzersiz yapmak için zaman sağlanması ve ayrıca fiziksel sağlığı iyileştirmek için fiziksel aktiviteyi artırmak için spor kulüplerine katılımın teşvik edilmesi, kronik hastalıklardan muzdarip hemşirelere sağlık durumlarına uygun özel egzersiz programları hakkında rehberlik edilmesi, her hemşireye bir eğitim paketi, broşür veya film sağlanması gerekmektedir. Çalışma, hemşirelerin aktivite kabiliyeti ve hemşirelerin beslenmesi alanında daha fazla özel araştırma yapılmasını önermektedir. Bu bulgular, özellikle fiziksel aktivite kabiliyeti ve cinsiyete özgü hususlar açısından hemşirelerin sağlık ve refahını iyileştirmeye yönelik hedefli müdahalelerin önemini vurgulamaktadır.

2023, 54 sayfa

Anahtar Kelimeler: Değerlendirme, Diyet, Fiziksel aktivite, Hemşirelik.

PREFACE AND ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to Asst. Prof. Dr. Tuğba ARSLAN for his directives to finish this work , And my success is only from God to the one who honored me by carrying his name My father, may God have mercy on him, who gave the precious and precious in the way of reaching a high scientific degree and left before he saw that To the light of my eyes and the light of my path and the glow of my life My mother whose prayers and words were the companion of excellence and excellence To the support and forearm of my brothers and to my son who I was deprived of seeing for years but he was present with me in all the steps of my life and the situations of my success And to those who supported me in all my difficult times and to my doctor who supported me in My study I dedicate this work to you .

Zahraa TAWFEEQ

Çankırı, 2023

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INDEX OF ABBREVIATIONS

BMI	Body mass index
CADA	Capability assessment for diet and activity
CCG	Clinical commissioning group
CVD	Cardiovascular disease
MERS	Middle east respiratory syndrome
NCDs	Communicable chronic illnesses
NHS	National health services
NHSs	Nurses' health studies
PA	Physical activity
PHE	Public health England
SARS	Severe acute respiratory syndrome
SFFQs	Semi-quantitative food frequency questionnaires
UK	United Kingdom
WHO	World Health Organization

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1. INTRODUCTION

The importance of a healthy diet throughout a person's life helps prevent malnutrition in all its forms as well as a range of diet-related non communicable diseases such as diabetes, heart disease, stroke and cancer and other conditions. But the increased consumption of processed food, rapid urbanization and changing lifestyles have led to a shift in dietary patterns. People are now consuming more foods high in energy, fats and free sugars or salt/sodium, and many do not eat enough fibre-rich fruits, vegetables and whole grains. To adopt healthy dietary practices we must balance calories in with calories out, limit fat intake, shift from saturated to unsaturated fats, eliminate industrially-produced trans fats and limit sugars and salt intake (WHO 2019).

With over 2.8 million active nurses in the United States, nurses are the largest profession in healthcare. While nurses spend a large portion of their career promoting the health of their patients and the families of their patients, many neglect their own health and frequently adopt unhealthy lifestyles. For instance, between 55% and 65% of nurses are obese or overweight, which can cause exhaustion, work-related injuries, physical limits, and despair. Additionally, nurses smoke three times more frequently than doctors. An important factor in determining one's ideal weight and level of personal health is nutrition. It aids in preserving healthy sleep patterns and lessening the negative effects of stress and inflammation on the body. Nurses frequently skip meals in order to care for patients. Long surgical operations with no available staff respite are typical in the operation room, and this circumstance leads to delayed or cancelled breaks. Extended fasting can drop blood sugar levels, deplete hydration, cause irritation, and make you feel exhausted. Maintaining good health can lessen these consequences and ultimately assist one avoid making poor food decisions when there is food accessible. This result necessitates planning, preparation, and knowledge (Criscitelli 2017).

The importance of regular physical exercise in health, including better weight control, less tiredness symptoms, and better sleep. Frequent exercise is also associated with a reduction in burnout and nurses' physical activity exploratory research compassion

fatigue, as well as benefits in mental and occupational health. At least 150 minutes per week of moderate-intensity aerobic exercise and at least two days per week of full-body muscle-strengthening activities are advised for Americans, although more than 80% of adults do not meet these requirements (Das and Adams 2021).

Physical inactivity contributes to a high burden of cardiovascular disease (CVD) and other non-communicable chronic illnesses, which is a long-standing public health issue (NCDs). According to recent estimates, one-third of the world's population falls short of physical activity (PA) recommendations, and physical inactivity is directly responsible for 5.3 million fatalities, or 9% of all premature deaths worldwide, a number equivalent to the mortality caused by smoking (5.1 million). Inadequate PA also imposes a significant financial burden, which was recently estimated to be 11% of all healthcare spending in the US, or around \$120 billion annually. The risk factors for metabolic, hemodynamic, body composition, epigenetic, and functional status that significantly contribute to the development of many diseases are reduced by increasing and maintaining acceptable capabilities of PA (Lobelo *et al.* 2018).

A significant public health issue, physical inactivity causes close to 334,000 fatalities per year in the United States. Unhealthy trends in declining physical activity at the workplace, at home, and during leisure time contribute to a prevalence of general inactivity that is currently estimated to be 35%. Sedentary behavior is also on the rise and has been independently associated to both cardiovascular-specific and total mortality. It carries health hazards comparable to those of smoking and obesity (Stoutenberg *et al.* 2017).

Physical inactivity contributes to a high burden of cardiovascular disease (CVD) and other non-communicable chronic illnesses, which is a long-standing public health issue (NCDs). According to recent estimates, one-third of the world's population falls short of physical activity (PA) recommendations, and physical inactivity is directly responsible for 5.3 million fatalities, or 9% of all premature deaths worldwide, a number equivalent to the mortality caused by smoking (5.1 million). Inadequate PA also imposes a significant financial burden, which was recently estimated to be 11% of all healthcare

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Nursing staff members' physical health at work has an impact on both their occupational health and patient care. Little is known about nurses' capabilities of occupational physical activity despite the fact that they work nonstop and do a range of physically demanding tasks, making up the bulk of the healthcare profession (Chappel *et al.* 2017).

Adults' practical options for increasing their capability of physical activity and the quality of their food are assessed using the Capability Assessment for Diet and Activity (CADA) questionnaire. It evaluates how people see the resources that are available for engaging in healthy eating and exercise, as well as how people's personal situations may affect their capacity to utilize these resources (Alhaji *et al.* 2021).

Educating individuals about nutrition is the responsibility of dietitians and/or nutritionists, but nurses are also very important in this process. Nurses play a crucial role in the multidisciplinary team since they frequently deal with diabetes patients. As nurses are constantly present to patients 24 hours a day, they are more easily accessible to them in the hospital setting than other members of the healthcare team. In the US, for instance, nurses visit diabetes patients in the ward 40 times more often than dietitians do, and 100 times more often than certified diabetes educators do (Mogre *et al.* 2015).

In modern civilizations, poor communities bear the brunt of considerable disease and death caused by unhealthy diets and sedentary lifestyles. Due to their intricate roots at the intersection of personal decisions and social and physical surroundings, these behaviors have proven challenging to treat in both clinical and public health contexts (Ferrer *et al.* 2014).

1.1 Objectives of the study

The aim of this study is to the assessment the physical activity and diet capability of nurses. To find out the effect of socio-demographic characteristics of nurses on physical activity and diet capability.

1.2 Hypothesis of the study

The main hypothesis of the research are (H0) There is no relationship between capability activity capability, diet and socio-demographic characteristics of nurses. And (H1) There is relationship between Capability activity capability, diet and socio-demographic characteristics of nurses.

1.3 Assumptions of the study

The fundamental assumptions are:

Assessment of the capability physical activity and diet capability of nurses is one of the most important concepts in nursing science. However, nurses do not have enough information about physical activity and diet; I also assumed that the participants would understand the questions and be honest in their responses to the interviews. I assumed that the interview evidence was reliable and valid, and that the criteria for inclusion in the sample were appropriate.

2. GENERAL INFORMATION

On the front lines of public health, nurses spend a lot of time encouraging patients and their families to lead healthy lifestyles. Yet, studies of nurses' lifestyle choices have repeatedly shown a pattern of non-adherence to public health guidelines for diet, alcohol, smoking, and sedentary behavior. Compared to other healthcare professionals and those working outside the healthcare sector, nurses are far more likely to be overweight or obese. A countrywide study revealed, English nurses are more likely than other healthcare professionals to be obese, with a body mass index of 30.0 and a prevalence of 25%. Obesity is frequent among nurses and increases the risk of conditions including diabetes, heart disease, osteoarthritis, and cancer. Nevertheless, it may be decreased with lifestyle changes (Torquati *et al.* 2017).

Every day, nurses deal with a variety of pressures, and they frequently report experiencing the most stress of all healthcare professionals. Working long, irregular shifts, having several responsibilities, competing job expectations, and having a large workload are common causes of this stress. The physical, emotional, and occupational health of nurses may be negatively impacted by the stress related to their line of work. Additionally, these pressures might harm nurses' health and care for patients. Finding self-care strategies that nurses may employ to reduce their stress and enhance their quality of life is crucial since these stresses have the potential to negatively affect patient care by leading to subpar health outcomes and possibly medical mistakes (Das and Adams 2021).

Obesity is prevalent among nurses and unregistered care workers, which raises the risk of musculoskeletal and mental health issues, which are the leading causes of illness absence in health care. More study is needed to better understand the causes for the high obesity incidence among healthcare workers in England in order to develop treatments to help people attain and maintain a healthy weight (Kyle *et al.* 2017).

The most significant impediment to good nutrition behaviors was the work environment. Long shifts and a lack of breaks tested nurses' self-control and self-

regulation when it came to nutritional choices. The biggest impediment was fatigue. However, nurses were driven to do so by relaxing, feeling energized before work, and getting better sleep after working night hours. The social environment at work seems to be an effective external motivator for promoting a healthy diet. The workplace and employment pressures have a detrimental influence on nurses' lifestyle choices. Future treatments should incorporate peer social support, which might encourage nurses to eat better at work and be more active outside of work (Torquati *et al.* 2016).

For reducing the risk of chronic diseases like diabetes and heart disease, which are currently the leading causes of death worldwide, diet and exercise are essential lifestyle choices. People's decisions dictate these behaviors, which can be altered by environmental factors including job characteristics and stress at work. For instance, nursing is a demanding profession that necessitates long hours (9–10 h/d) and has been connected to a poor diet and inactivity. Fatigue and a lack of time have been recognized as the main barriers to physical activity. On the other side, a lack of breaks and long workdays are linked to poor dietary decisions. 8 In a recent study of 4,000 nurses, it was shown that 8.5% had a healthy lifestyle, which was described as (Torquati *et al.* 2018).

On the other hand, dietary fat consumption and its effect on weight gain have been the subject of substantial research but are still up for debate. Although dietary fat provides more calories per gram than either protein or carbohydrate, it has been suggested that it may contribute to obesity. Additionally, people may eat a lot of high-fat meals because they are so good, consuming a lot of calories in the process. Also, a lot of processed foods and snacks, such crackers and cookies, include trans fat and saturated fat, the two types of dietary fat most closely associated with the risk of developing heart disease and other chronic illnesses (Field *et al.* 2007).

Nurses' worse health behaviors have an adverse effect on not just them as people but also the standard of care given to patients and the public perception of health service professionals. Additionally, nurses' own health behaviors may affect how well they advise patients on lifestyle choices since unwell nurses may be less inclined to discuss

lifestyle and health practices with patients and whatever messages they do provide may not seem believable to them (Soh *et al.* 2018).

Regular exercise helps prevent the development of numerous ailments, including obesity. A study done in our nation's Faculty of Sports Sciences found that faculty students were more active than their fellow faculty members. In 2005 study conducted in Sweden indicated that gender had no impact on the amount of physical activity a person engaged in. Another survey revealed that 51% of college students engaged in insufficient physical activity (Güneş and Güçlü 2019). There are many benefits of physical activity for both physical and emotional health and wellbeing. In spite of this, according to Public Health England (PHE), 2016 we are 20% less active as a nation than we were in the 1960s. Hence, one in six of us will pass away from physical inactivity. Each NHS clinical commissioning group (CCG) in England may get up to £9.4 million for the treatment of five preventable diseases: ischemic heart disease, cerebrovascular illness, breast cancer, colon cancer, and type 2 diabetes. Inactivity costs the UK around 7.4 billion pound annually. Indirect costs of inactivity, such as demands on the greater health and social care sector and lost productivity, are additional costs associated with this (Piggin 2020).

Since nurses contact with patients for the bulk of a patient's stay, they are essential in encouraging healthy lifestyle behaviors to patients and are thus a key component of a larger public health initiative to get more people moving. The more they practice good personal health habits, the more likely they are to advise their patients on a range of behaviors such as physical activity, a healthy lifestyle, avoiding smoking and alcohol abuse, and eating a balanced diet. For this, it is important for them to first consider their own health and then guide patients to adopt healthy lifestyles through behavior modification and intervention (Da Silva *et al.* 2022).

Insufficient physical exercise was identified by WHO as a problem that required action from global public health organizations in 2014. Physical inactivity is one of the main causes of the over 14 million deaths from chronic illness. Physical inactivity is a primary cause of disease, disability, and premature mortality globally, according to

research. Every state in the USA has seen a progressive decrease in the percentage of people who are physically inactive over the past 30 years, although the prevalence rate is still high in many states (Lin *et al.* 2018).

Nutritional evaluation is necessary for an accurate diagnosis at an early stage for malnutrition can result in serious consequences, morbidity, and death, all of which raise the need for medical and social services as well as the expense of care. Many times, malnutrition goes unnoticed. Despite being a significant issue, malnutrition has received little attention in primary care. According to one research, the typical hospital stay is five days, which is the equal of how long it takes to complete a nutritional evaluation. Nutritional evaluation should be done during the first 24 hours of hospital admission, according to The Joint Commission. Nevertheless, because of the nurses' busy schedules and lack of time, nutritional screening recommendations are frequently ignored. In addition, given that nurses provide (Gbareen *et al.* 2021).

A crucial and indispensable part of the medical team is the nurse. In order to guarantee that there is an enough workforce available to deliver essential healthcare services to community members throughout the spectrum of wellness and sickness, support for nurses' short- and long-term health is essential. Research have shown that the nursing workforce's physical and mental health are inextricably linked to self-care practices including physical activity (PA), a healthy diet, and good sleep hygiene. For instance, regular physical exercise, nutritious nutrition, and quality sleep are linked to decreased death rates from all causes and psychiatric problems including stress and burnout (Rangel *et al.* 2023).

The availability of extra staff to assist with care and reduce the need to move from room to room might be a barrier to day shift employees engaging in greater physical exercise. Lastly, shift work and a healthy diet may be mediated by a locus of control that was driven by chance. As the quality of appetite and perceptions of healthy eating habits were also worse among first-shift employees who were not nurses and some of them never exercised, more study is required to identify day shift elements that might be changed to enhance healthy lives (Albert *et al.* 2014).

The primary impediment to good eating behaviors was the workplace environment. The self-control and self-regulation of nurses' eating decisions were put to the test by their long shifts and lack of breaks. For PA, fatigue was the major obstacle. Yet, nurses were encouraged to do PA because it helped them unwind, feel energized before work, and sleep better after working night shifts. An effective external stimulus to promote a balanced diet and regular physical activity appeared to be the social environment at work (Torquati *et al.* 2016).

Work schedules that are longer than the conventional "nine-to-five" workday are referred to as shift work. These schedules frequently include early work starts, compressed work weeks with 12-hour shifts, and night work. Recent polls conducted in the United States and Europe indicate that between 15 and 30 percent of adult employees participate in some form of shift work, with 19 percent of Europeans apparently working at least two hours between the hours of 22:00 and 5:00. According to the 2005 International Classification of Sleep Disorders, 2-5% of employees may have a sleep disturbance related to shift employment. In connection with the unusual work schedule, this condition is characterized by extreme drowsiness and/or sleep disturbance for at least one month (Boivin and Boudreau 2014).

Several nursing roles need for the availability of 24-hour emergency nursing care. Shifts longer than eight hours or more than forty hours per week are considered extended work hours. Work hours outside of the traditional Monday through Friday window of 7 a.m. to 6 p.m. are known as shift work. Compared to nurses working shorter shifts, nurses working 10-hour or longer shifts were 2.5 times more likely to indicate burnout, job dissatisfaction, decreased wellbeing, and their desire to leave. Many chronic diseases, injuries, and poor reproductive outcomes are risks for nurses. After three years, 43% of newly certified registered nurses in hospitals quit their jobs (Caruso *et al.* 2019).

There might be several barriers to selecting a healthy lifestyle in nursing work environments. A few of these include lack of access to exercise facilities, challenges with eating healthily due to bad work hours, individual challenges, and aspects of the physical office environment. The National Health Service (NHS) in the UK experiences

a significant amount of lost productivity due to mental illness, placing a significant financial burden on healthcare services. That is a serious issue in the nursing field. There are high rates of work-related stress, emotional exhaustion, and burnout; also, nurses may have higher rates of depression than the general population. There are a number of complex organizational issues that might have an impact on nurses' mental health and the type of care they offer (Stanulewicz *et al.* 2019).

2.1 The importance of a healthy diet for nurses

Whether a person is unwell or not, and regardless of where they are, nursing entails providing autonomous and team-based care to individuals of all ages, families, groups, and communities. It include promoting wellness, preventing illness, and providing care for the ill, the disabled, and the terminally ill. Nurses are often the unsung heroes in hospitals and during emergencies since they are so important to patient care. They work in the field of basic healthcare delivery and illness prevention, They typically recognize medical emergencies before anybody else, and their duties frequently include promotion, prevention, treatment, and rehabilitation. Nurses make up 50% of the workforce in several nations' health care systems. They are essential to the administration and front-line application of health interventions. The quality of their initial assessment and continuing care is essential for achieving excellent health outcomes since they are occasionally the first and often the only healthcare practitioner a patient may encounter (University of Technology Sydney 2017).

Additional advantages of better educated nurses for patient outcomes and care; these professionals' pre-registration programs include incorporating research in everyday practice. However, many undergraduate nursing programs fall short in integrating research skills early or enough to produce nurses who can utilize or build research-based knowledge in their practice with competence and confidence (Clark and Thompson 2019).

For the scientists in the field of nursing, the advancement of knowledge is a fascinating intellectual challenge. The development of the substantive content required for practice

within the context of nursing's disciplinary perspective, the maintenance of excellence in the expanding science base and the training of nurse researchers, and the dissemination of stable, appropriate research findings to the profession's clinicians and the general public are all challenges that must be overcome. The field of nursing is transitioning into a new phase as it moves from the stage of developing institutional frameworks to support nursing research to the stage of concentrating on the identification and study of the phenomena that make up the body of knowledge required for practice. a number of priorities or directions (Hinshaw 1989).

Every nation needs to have access to medical specialists. Their health and safety are crucial for the provision of continued, secure patient care as well as for the containment of any outbreaks. Healthcare professionals caring for patients during the Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS) outbreaks were under extreme stress due to the high risk of infection, stigma, understaffing, and uncertainty. Comprehensive support was a primary emphasis both during the epidemics and subsequently. According to quantitative studies, frontline healthcare professionals are more prone to experience mental health problems such stress, anxiety, restlessness, and sadness (Liu *et al.* 2020).

The foundation of the helping profession is the nursing staff, and a key component of their job is forging strong bonds with the people they care. While the interpersonal interaction is viewed as the cornerstone of a person-centered, recovery-oriented approach within mental health nursing in the United States, it flows through the principles of the nursing profession in the United Kingdom. Globally, the alliance is extensively emphasized by European and Australasian nursing groups, who stress the value of interpersonal interactions and the requirement to be able to demonstrate successful therapeutic alliances (Hartley *et al.* 2020).

2.2 Nursing role in patients physical activity and nutrition

Promotion of exercise and physical activity at work has grown in popularity in recent years due to the possibility of reaching many individuals. Body mass index (BMI), food

habits, and physical activity capabilities have been significantly improved as a result of workplace interventions in hospital settings. Technical, allied health, and administrative staff members are included in such interventions, which sets them apart from nurses, whose shifts are often longer and more erratic due to the 24-hour patient care service. The setting in which nurses operate is likewise unique, having been regarded as extremely unfriendly and unsupportive (Torquati *et al.* 2017).

Nurses are responsible for making sure that patients' and clients' dietary requirements are met. It is essential to provide nutrition evaluation and suitable nutrition recommendations in order to encourage healthy eating and, ultimately, improved health results. Risk factors for non-communicable diseases may frequently be altered. Four primary modifiable risk factors unhealthy eating, inactivity, smoking, and problematic alcohol use have been conclusively linked to an increased risk of non-communicable diseases (United Nations Department of Economic and Social Affairs, WHO 2003, Xu *et al.* 2017).

On the one hand, it helps to preserve and enhance nurses' health. Nursing job is distinguished by its high intensity, work overload, and intense pressure. Professional activities contribute to the emergence of chronic illnesses in nurses, and the fight against the COVID-19 outbreak has raised nurses' burden even more. In brief, constant, high-intensity, and high-risk nursing puts nurses under tremendous physical and emotional strain, causing their health to deteriorate. Many studies have also found that neck, shoulder, low back, and back discomfort, as well as osteoporosis, hyperlipidemia, and other disorders, are common in nurses (Liu *et al.* 2022).

Nurses, who make up the bulk of the health workforce, provide the majority of patient care. Most health education is given by nurses, who also serve as role models for good conduct and healthy lifestyle. Anything that worsens their health has the potential to be harmful to the population's health and might limit their ability to act as role models and be accessible, and provide high-quality treatment. Of all healthcare employees, nurses experience the most stress due to their numerous negative stressors. Many nurses have risk factors for cardiovascular disease, including smoking, depression, anxiety,

overweight/obesity, hypertension, dyslipidaemia, diabetes, sedentary behavior, and physical inactivity (Best Practice Nursing Agency 2020).

With inhabitants of nursing homes, malnutrition is widespread. In Europe, its frequency has ranged from 14% to 21% and its risk from 45% to 53%, according to the Mini Nutritional Assessment. Just 18% of nursing home patients in the research consumed enough protein and calories. The health-related quality of life of elderly individuals who live in the community and those who are institutionalized has been linked to malnutrition. Depression, functional impairment, swallowing issues, and cognitive impairment have all been linked to malnutrition in nursing home patients (Salminen *et al.* 2020).

Dietitians or nutritionists make up the majority of nutrition counselors. Nutritional counseling, however, is a crucial function of other healthcare professionals like nurses, community health workers, or volunteers. Although the importance of the nurse is acknowledged in nutrition screening, there is no proof of its influence or efficacy in nutrition counseling. Yet, nurses are a crucial component of the team that provides patients with direct care, and as such, they are in a position to modify their behavior for the better enhancing the efficacy of dietary treatments (Vasiloglou *et al.* 2019).

2.3 Factors affecting a healthy diet

One of the main causes for nurses' intention to leave the workforce is ill health. The nature and caliber of patient care may be influenced by the nurses' health state and rates of engagement in healthy behaviors. The majority of the nurses said that coworkers can serve as role models for both good and harmful lifestyles. Nurses mentioned that colleagues, managers, and supervisors may motivate them by serving as examples of healthy living in the majority of the positive remarks. Observing coworkers and nurses in leadership roles who practiced healthy diet, regular exercise, and exhibited a healthy work-life balance inspired the nurses to follow their example, according to the nurses. These role models would not only exhibit healthy habits, but they would also impart

knowledge about diet and exercise. "Eating healthier is something that everyone is talking about, which is encouraging and makes you want to join in." (Ross *et al.* 2019).

The setting in which nurses controlled their eating and physical activity was explored, as well as specific contextual elements that might operate as inhibitors or enhancers of their eating and physical activity behavior. These factors included rules and regulations at work; tasks related to roles; the food environment at work; the design of the workplace; cost; a lack of breaks; inclement weather; the food environment at work; the availability of facilities; the working shift pattern; equipment/transportation; and time constraints (Power *et al.* 2017).

Nurses expressed fear, however, that peers and nurses in leadership positions would set poor examples of behavior. It may be challenging for nurses to resist consuming sweets and other unhealthy foods when everyone else is feasting. If I observe other people engaging in bad eating, I feel less guilty about it. The nurses mentioned administrators or managers who would frequently have "lunch meetings," during which employees would have to work while eating, or who would reply to emails in the evenings, on the weekends, or at night, even if they were not time-sensitive. They asserted that by engaging in these behaviors, they increased their own stress capabilities and contributed to the development of a society where selflessness was valued and regarded as the norm. The majority of participants more than 75 percent—said that the largest barrier to engaging in health-promoting behaviors was a lack of time or being overworked. reported that the workload and pace, long and usually unexpected hours, rotational or unpredictable shifts, long commutes, and a lack of covering for necessary breaks and/or meals were barriers to engaging in health-promoting activities. Numerous people brought up journeys that lasted longer than an hour. More than 25% of the nurses cited the lack of convenient access to a gym, exercise or yoga programs, or other facilities at work as another major barrier (Ross *et al.* 2019).

2.4 Physical activity of nurses

Regular physical activity (PA) is clearly related with enhanced physical and mental health in the general population. Regular physical exercise is also linked to increased work capacity and decreased employee burnout rates among healthcare personnel. Although regular physical activity might support and improve nurses' personal health and professional engagement, many report little to no physical activity. A widely held and convergent position is that encouraging regular physical exercise among nurses may motivate nurses to promote regular physical activity among their patients while also improving their own physical and mental health (Brunet *et al.* 2021).

Most nurses exert enough energy on a typical workday to maintain a healthy weight, assuming that calorie intake does not exceed suggested capability s. This is accomplished mostly by low-intensity PA coupled with some moderate-intensity PA. Nurses can maintain or improve their PA capability s throughout successive shifts in most shift arrangements. Long durations of standing can produce weariness in nurses, thus alternating between sitting and standing promotes recuperation. However, data on nurses' typical occupational PA capability s was contradictory, which was most likely due to the assessment equipment utilized (Schwienteck 2020).

The physical demands placed on hospital nurses are well acknowledged. Although numerous studies have used questionnaires to evaluate nurses' physical activities, The amount and kind of physical exercise that nurses engage in while working must still be measured using objective criteria. By assessing nurses' physical activity using both quantitative measurements and subjective judgments, this study aimed to close a gap in the literature. The number of steps walked, the distance traveled, and the actual work hours were recorded while at work, and the effects of numerous factors were examined (Chang and Cho 2022).

The physical performance of nurses at work has ramifications for both their occupational health and patient care. Nurses' occupational physical activity capability s

are little studied, despite the fact that they are the biggest healthcare workforce, are present 24 hours a day, and do many physically demanding duties (Chappel *et al.* 2017).

For reducing the risk of chronic diseases like diabetes and heart disease, which are currently the leading causes of death worldwide, diet and exercise are essential lifestyle choices. These behaviors are influenced by individual choices, and contextual factors like job characteristics and stress at work might change them. For instance, nursing is a demanding profession that necessitates long hours (9–10 h/d) and has been connected to a poor diet and inactivity. Poor dietary decisions are caused by long hours and a lack of breaks at work, whilst exhaustion and a lack of time have been identified as important barriers to physical activity. A recent survey of 4,000 nurses found that 8.5% of them had healthy lifestyles, which were described as a mix of things including following recommended capabilities of physical exercise and eating well (Torquati *et al.* 2018).

To the best of my knowledge, there is a lack of information on young nurse trainees in Ghana, despite a growing body of work on perceived obstacles and motivators/facilitators to lifestyle habits including healthy eating and physical exercise in certain contexts among university students. The health of individuals who will provide healthcare must be better understood. A qualitative approach to identifying the impediments and drivers to healthy eating (consumption of fruits and vegetables, use of oil and salt, timing of meals), as well as physical activity, among nursing students (for this study, the concept of nurse trainees refers to pre-service individuals currently receiving formal training in a health training university specifically in public health nursing) (Doegah and Acquah 2022).

According to studies, student nurses' lack of regular physical activity and lack of adherence to a health-promoting lifestyle are hurdles to encouraging patients to exercise. Nurses who like physical exercise themselves, on the other hand, are more inclined to advise their patients to improve their health through physical activity or nutrition. As a result, supporting an active and healthy lifestyle among student nurses is critical since it plays a critical role in encouraging healthy lives among their patients (Soh *et al.* 2018).

Health professionals reported problems in developing food and nutrition educational activities. Thus a regional food training program with primary health care nurses might be a useful choice for enhancing professionals, allowing them to promote healthy and safe eating in families, guaranteeing optimal child growth and development (Ferreira *et al.* 2020).

Generalist community nurses commonly meet clients in their homes, caring for patients newly discharged from the hospital, the elderly, and those suffering from chronic conditions. Although health promotion efforts are part of the traditional community nursing paradigm of practice, community nursing services have increasingly evolved to deliver shorter-term, more clinically focused services to individual clients. Previous study has demonstrated that community health nurses believe that providing lifestyle interventions is suitable for their profession and that clients accept it. However, few studies have been conducted to assess the efficacy of lifestyle treatments delivered by community nurses in ordinary practice (Brunet *et al.* 2021).

2.5 Physical activity capability of nurses

According to research, hospital employees struggle to maintain a healthy weight, have poor food habits, low capability s of physical exercise, high capability s of stress, and musculoskeletal issues. In the United Kingdom, 45% of healthcare workers did not meet the recommended capability s of physical activity, 30% said their jobs were sedentary, more than 50% did not meet the daily goal of servings of fruits and vegetables, and more than 30% consumed high-fat and high-sugar foods every day. Additionally, more than 40% of healthcare workers were classified as overweight or obese. Also, a multi-nation study carried out in Australia, New Zealand, and the UK found that more than 60% of midwives were overweight or obese (Worley *et al.* 2022).

The majority of the occupational physical activity performed by nurses is low-intensity exercise mixed with medium-intensity jobs. It is unknown if physical activity capability s during one shift have an impact on those during the next. Understanding the physical demands of nursing job and how nurses' physical activity may affect workplace

wellness and patient safety is made possible in part by this systematic study (Chappel *et al.* 2017).

Nurse practitioners can use questionnaires, pedometers, and accelerometers to measure their patients' physical activity capability. In order to identify patients as fulfilling national physical guidelines and/or to ascertain the amount of time each week that patients spend engaging in health-promoting physical activity capabilities, questionnaires can be employed as a vital sign during clinic appointments. On the other hand, nurse practitioners can employ pedometers and accelerometers to monitor patients' advancement toward meeting recommended physical activity standards and/or to provide a way for patients to monitor their own physical activity patterns. These metrics can be used to evaluate physical activity during academic tasks such as research. (Ainsworth and Buchholz 2017).

The challenges nurses face on a daily basis are diverse, and they usually claim to be the healthcare workers who are most stressed out. This stress is frequently brought on by working long, unexpected shifts, having many duties, competing job demands, and heavy workloads. The stress associated with their line of work may have a significant influence on nurses' physical, mental, and occupational health. The health of nurses and patient care may be impacted by these stresses. To better care for patients, nurses must learn self-care techniques that will lower their stress capabilities and enhance their quality of life. This is due to the possibility that these pressures could negatively affect patient care by resulting in substandard health outcomes and possible medical (Das and Adams 2021).

Musculoskeletal illnesses are one of the most common occupational health issues among nurses, and they may be associated to physical load. The shoulders, neck, right wrist, and lower back have the highest frequency of musculoskeletal problem symptoms. They are linked to reduced work capacity and sick leave among all health care employees, as well as mental, cardiovascular, and respiratory disorders (Nerek *et al.* 2021).

Several health benefits of physical activity are well known, including improved cardiorespiratory fitness, muscular fitness, and bone health. Inactivity still poses a significant threat to global and national health, contributing to diseases including diabetes mellitus and coronary heart disease. By advocating for the potential benefits of physical activity to the general public, nurses play a crucial part in the promotion of health. Research indicates that many nurses may not be receiving enough physical activity despite the demanding nature of the nursing profession. The evidence that more physical activity may enhance nurses' wellbeing is examined in this article. The study also examines how physical activity affects well-being indicators including affect, mood, and anxiety (Owusu-Sekyere 2020).

Physical inactivity has been recognized as the fourth highest risk factor for global mortality, responsible for an estimated 3.2 million deaths worldwide. The WHO Global Strategy on Diet, Physical Activity, and Health is an effort to address the growing global burden of chronic diseases, including coronary heart disease. WHO Member States have endorsed the principle that, in order to address chronic disease challenges, cross-sectoral policies that promote physical activity, generate sustainable access to healthy diets, and promote healthy choices must be implemented (Romola 2013).

A decline in activity Tolerance due to diminished circulatory function, an imbalance in oxygen supply and demand, and widespread weakness during physical exercise are all results of heart failure. a decline in activity Increased heart rate, elevated temperature, weakness, and vocal comments of weariness consequent to viral infection are signs of tolerance related to higher metabolic demands (VERA 2022).

Any skeletal muscle-produced motion that involves an energy expenditure is referred to as a different sort of physical activity. All movement, whether done for recreation, transportation to go to and from locations, or as part of a person's job, is considered physical exercise. Health is improved by engaging in both intense and moderate-intensity physical activity (Philbrick *et al.* 2022).

Numerous studies from various fields have noted the advantages of physical activity for one's health. In particular, has been shown to guard against cardiovascular illnesses, neurological disorders, and other non-infectious diseases. Research has also shown that lowers the risk of death in the general population and promotes healthy aging. Therefore, a primary priority in public health is to promote as a healthy activity in all facets of society. The World Health Organization's promotion framework for the European area is one widely used example of the numerous promotion programs and interventions that have been put into place at the regional and national capability s. Some of these measures include creating sports and exercise laboratories in hospitals and adding patients' capability s to medical records (Asiamah *et al.* 2022).

Employee physical activity capability s have a direct and indirect influence on resident care. Work-related musculoskeletal problems and illnesses had a role in why 63.8% of long-term care workers had occupational limits and why 29.8% of them reduced their work hours. Indicators of resident care quality, such as the need for physical restraint, catheter usage, pain treatment, and pressure sores, have also been linked to employee absenteeism. However, adhering to the recommended capability s of physical exercise dramatically decreased absenteeism among long-term care workers. By reducing employee absenteeism, this lends credence to the hypothesis that the degree of physical activity may play a significant role in the staffing shortages that many long-term care institutions have. Due to changes in work hours brought on by staffing shortages that have persisted or become worse during the COVID-19 epidemic, physical activity participation has been significantly impacted (Aslakson *et al.* 2022).

According to a recent study, healthcare professionals feel that they should live healthy lifestyles and serve as role models for the promotion of healthy habits. Additionally, compared to health-diagnosing experts and the general adult population, physiotherapists, physiotherapy assistants, and students of physiotherapy reported greater rates of physical activity. Healthcare professionals are supposed to know more than the general public about the value of physical exercise, healthy behaviors, and their long-term effects (Sklempe *et al.* 2022).

The nursing workforce is aging, and this can have an influence on how much physical exercise people engage in both at work and in their own time. According to research, physical exercise at work alone is insufficient to maintain wellbeing. In order to ascertain if age and job demands are related to meeting required physical activity capabilities both at work and for fun, this study looked into the physical activity capabilities of a sample of nurses (McCarthy *et al.* 2018).

Approximately 11,000 nurses graduate from nursing programs each year in Australia, making up the next generation of nurses in the industry. Most recent graduates enroll in a 12-month new graduate program before beginning full-time employment at a public or private hospital. For the purpose of easing the transition to practice, these programs frequently incorporate in-person instruction, mentorship, and support. Most recent grads are under 24 years old and mostly female (Brogan *et al.* 2021).

Most nurses spend a significant amount of each day on their feet, delivering patient care and making important choices regarding diagnosis and treatments, which puts a tremendous strain on their physical stamina and mental acuity. Nurses should exercise regularly and make conscious food choices to maintain the best degree of vigor and vitality. A healthy lifestyle not only helps them perform better physically, but it also sets a good example for their patients. There is no one right method for nurses to exercise, and there are different nutrition recommendations for nurses, but there are some basic guidelines that can help nurses decide on their lifestyle (University 2022).

In particular, the review discusses the effectiveness of RNs in primary care with regard to patient outcomes in terms of satisfaction, enablement, quality of life, self-efficacy, and changes in health behaviors. To maximize the provision of patient-centered primary care, ongoing assessment that takes into consideration the specific scope of practice of primary care RNs and places a focus on the patient experience is required (Lukewich *et al.* 2022).

Every day, nurses provide care for patients in a variety of venues, including hospitals, doctors' offices, schools, and public health institutions. These jobs frequently demand

nurses to put in long, irregular hours and are stressful since they include caring for sick individuals. These pressures might encourage bad eating habits that have a negative impact on the nurse's health and wellbeing. Patients might get nutrition-related information from nurses, who play a crucial role in this process. Patients may therefore be extremely aware of their nurses' personal hygiene practices. Nurses may lessen the effects of pressures on their bodies and improve their health by eating well. This will enable them to care for patients and themselves more effectively (Reed 2014).

2.6 Factors affecting physical activity or inactivity

Many nurses commented that they spent their days off trying to recuperate or catch up on sleep, as opposed to participating in health-promoting activities. Several mentioned that, not only did the fatigue interfere with their participation in health-promoting self-care, but that it often contributed to unhealthy activities. In addition to long work hours and fatigue/lack of sleep, nearly half of the nurses cited outside commitments and obligations that presented barriers to their participation in health-promoting behaviors. These competing outside demands included family/household responsibilities, school, and community activities. Many of the nurses were busy parents who, after working long shifts would return home to prepare meals, chauffeur children to sports and other activities, and help with homework. Some discussed caring for sick/elderly family members. Repeatedly, nurses wrote that they felt overextended and lacked any “down” time. As well as one of the factors that positively affect physical activity is the provision of regular working times for nurses that allow them to relieve fatigue and effort (Ross *et al.* 2019).

Some nurses considered family as key influencers of unhealthy eating and physical activity behaviours, and described how some family members made it difficult for them to make their eating and physical activity a priority. For instance, nurses living with a family expressed the need to include and balance the different preferences of family members which were sometimes at odds with instigating healthy eating behaviour patterns. Familial roles and responsibilities also emerged as a barrier to physical activity

behaviour for some nurses. Nurses considered this sense of responsibility left them with less time to engage in physical activity (Power *et al.* 2017).

Several researchers have examined the relationship between workplace factors and nurses' participation in health-promoting activities. The type of unit on which a nurse works, as well as the type of job that a nurse holds may influence participation in health-promoting activities. For example, critical care nurses reported lower participation in health-promoting behaviors than do medical-surgical and telemetry nurses, Polish nurses working shifts reported practicing fewer health-promoting behaviors than nurses who did not participate in shiftwork (Ross *et al.* 2019).



3. MATERIAL AND METHODS

3.1 Study design

This is a descriptive cross-sectional design.

3.2 Place and time of the research

The research was conducted in (Al-Karama Teaching Hospital in Wasit City / Iraq) for the study sample of nurses for the period between 5.2.2023-15.3.2023

3.3 Study sample size

The total number of nurses in Al-Karama Teaching Hospital (200). The sample was chosen using a straightforward random sampling technique, which is recognized as one of the probability-based sampling techniques. The sample computation employed the Equation (3.1).

$$n = N \times t^2 \times p \times q / d^2 (N - 1) + t^2 \times p \times q$$

These are the symbols used in the formula (Karasar, 2014). The research's theoretical t value is 1.96, with a 95% confidence range and a 0.05 sampling error. The number of samples that may accurately reflect the population of (200) persons should be at least (132), according to the calculations, when the study data were entered into the basic random sampling procedure, which has a 95% confidence interval and 0.05 margin of error. There are only three people who refused because they are not cooperative and there are no other reasons.

3.4 Study instrument

3.4.1 The socio-demographic data

The patient's personal information form will be utilized to ascertain the socio-demographic aspects of the consists of age, gender, educational level, department in hospital (the place where the nurse works), height and weight of the participants (Appendix 1). Body Mass Index was calculated using the formula is kg/m^2 where kg is a person's weight in kilograms and m^2 is their height in meters squared. Calculated BMI value classified as Underweight (≤ 18.4), 18.5 - 24.9 Normal, 25.0 - 39.9 Overweight ≥ 40.0 Obese (Nuttall 2015).

3.4.2 Capability assessment for diet and activity (CADA) questionnaire

CADA measures a person's capacity to manage their diet and activity. 25 items make up the CADA questionnaire, which may be graded on a Likert scale with 1 (Almost never) being the least likely to occur to 5 being the most likely (almost always) respectively. The first 14 items of the questionnaire are dietary questions. They are divided into four subscales: diet opportunity (items 1–5), diet obstacles (items 6–8), diet knowledge (items 9–11), and diet time (items 12–14). The remaining eleven questions on the CADA questionnaire, which evaluate physical activity capability, physical activity convenience (items 15–17), neighborhood (items 18–22), and physical activity barriers (items 23–25) (Appendix 2), (Ferrer *et al.* 2016). The findings of the translated CADA questionnaire were outstanding and good, and the dependability of the replies was quite high. Furthermore, the content validity study yielded scores of 99.3% for representativeness and 98.6% for degree of clarity. This shows that the CADA questionnaire may be translated and utilized in other Arabian nations while maintaining its accurate psychological properties. The translated CADA was of good psychometric quality. High compatibility was indicated by the content validity study's representativeness and clarity scores of 99.3% and 98.6%, respectively. Principal component analysis indicated a single-factor structure. The CADA questionnaire is now accessible in Arabic to evaluate chances to achieve a balanced diet and capability of

physical activity as part of managing health behavior, which might result in more successful interventions for enhancing people's health in Arabic-speaking countries (Alhaji *et al.* 2021).

3.6 Ethics committee approval

Ethical approval of the ethics committee of çankiri university was obtained and directed to the Wasit director to facilitate the data gathering in the hospital. The research was performed at the Wasit City Health Department /Training and Human Development. At the outset, written permission from at Al Karama Teaching Hospital in Wasit City / Iraq, where the study was conducted, and the data was obtained. After presenting the sample with the study's goals and objectives, the researcher obtained their verbal consent to participate in the study before starting to collect data.

3.7 Data collection

From February 5, 2023, through March 15, 2023, The method used is to collect data from the study sample through questions directed to the nurses about diet and activity for 10 minutes, to which they answer accurately and independently without the researcher's interference in their answers and without leaving any questions. Through a questionnaire consisting of.

3.8 Data analysis

The data will be analyzed using frequency, percentage, mean, standard deviation, one-way analysis of variance (ANOVA), and independent sample t-test in SPSS software. The capability of significance to be determined in evaluating the data is $P \leq .05$.

4. RESULTS

This table represents the descriptive statistics of socio-demographic information of nurses in term of frequencies and percentage. Out of (132) nurses participating in this study, their mean age 30.25 ± 8.35 years. In terms of gender, it is divided equally between males and females. Regarding to level of education the findings indicated that most of the study sample were Intermediate school graduate made up (40.2 percent), regarding working place finding reveled that (66.7%) work in medical wards. It is clear from the findings that majority of study sample were without chronic diseases. It reflected (85.6 percent) out total number. The findings show the distribution of the studied sample according to the Body mass index, results show that most of the patients with healthy weight and BMI mean is $25.44 \pm 3.96 \text{ kg/m}^2$ (Table 4.1).

Table 4.1 Distribution of the socio-demographic data for nurses

DEMOGRAPHIC DATA	SUBGROUP	NUMBER	PERCENT
Gender	Male	66	50.0
	Female	66	50.0
Age	20-35 years	107	81.1
	36- 55 years	25	18.9
Level of Education	Aqualified nurse	16	12.1
	Technical nurse	53	40.2
	Academic nurse	51	38.6
	Specialist Nurse	12	9.1
Department	Medical	88	66.7
	Surgical	44	33.3
Chronic Disease	No	113	85.6
	Yes	19	14.4
BMI (kg/m ²)	Normal weight	67	50.8
	Over weight	49	37.1
	Obesity	16	12.1

BMI: Body mass index

Table 4.2 The nurses mean diet capability total scores was 48.39 ± 7 . The subscale with the highest average is diet opportunity. The result showed mean of the physical activity capability total scores for nurses was 34.61 ± 7.53 . Among the physical activity capacity sub parameters, the highest mean was in the neighborhood.

Table 4.2 Distribution of the diet and physical activity capability scores for nurses.

VARIABLES	MEAN	SD*
Diet capability total scores	48.39	7.00
Diet opportunity	17.96	3.30
Diet obstacles	9.71	2.67
Diet knowledge	11.47	2.72
Diet time	9.25	2.67
Activity capability total score	34.61	7.53
Physical activity convenience	8.77	3.07
Neighborhood	16.22	4.21
Physical activity barriers	9.26	3.32
Diet and activity capability total score	80.35	12.11

SD: standard deviation

Table 4.3 The result showed no differences between gender and diet capability for Nurses due to p-value more than ($p=0.05$). But there are a difference of physical activity capability in gender groups ($p=0.033$). Physical activity capability is statistically higher in male group than female group ($p<.001$).

Table 4.3 Differences between of the physical activity capability and diet for nurses' gender.

VARIABLES	GENDER	MEAN	SD*	F*	P*
Diet capability total scores	Male	49.23	7.76	.539	.180
	Female	47.80	6.11		
Diet opportunity	Male	17.56	3.49	.946	.163
	Female	18.36	3.07		
Diet obstacles	Male	9.71	2.83	.186	1.000
	Female	9.71	2.53		
Diet knowledge	Male	11.38	2.95	3.036	.680
	Female	11.58	2.49		
Diet time	Male	8.94	2.83	.748	.173
	Female	9.58	2.49		
Activity capability total scores	Male	36.12	6.97	.914	.033
	Female	32.97	7.85		
Physical activity convenience	Male	9.70	2.97	.041	<.001
	Female	7.83	2.90		
Neighborhood	Male	16.80	3.61	3.636	.112
	Female	15.64	4.70		
Physical activity barriers	Male	9.62	3.43	.748	.677
	Female	9.50	3.24		
Diet and activity capability total score	Male	85.35	12.94	.127	.587
	Female	80.77	11.30		

Abbreviations: F: distribution, p-value: probably, significant at 0.05, high significant at 0.01, SD: standard deviation, independent t test

Table 4.4 The result showed no statically significant difference between nurses' age groups and of the activity and diet capability of nurses due to p-value more than 0.05.

Table 4.4 Difference between of the activity and diet capability for nurses' age groups.

VARIABLES	AGE	MEAN	SD*	F*	P*
Diet capability total scores	Young Adults	47.33	6.90	.160	.247
	Adults	45.52	7.41		
Diet opportunity	Young Adults	18.08	3.35	.022	.381
	Adults	17.44	3.08		
Diet obstacles	Young Adults	8.27	2.62	.485	.882
	Adults	8.36	2.93		
Diet knowledge	Young Adults	11.58	2.71	.007	.375
	Adults	11.04	2.81		
Diet time	Young Adults	9.39	2.43	4.809	.232
	Adults	8.68	3.54		
Activity capability total scores	Young Adults	33.27	7.24	.456	.771
	Adults	33.76	8.79		
Physical activity convenience	Young Adults	8.69	2.90	3.085	.571
	Adults	9.08	3.76		
Neighborhood	Young Adults	16.22	4.15	.053	.979
	Adults	16.24	4.56		
Physical activity barriers	Young Adults	8.36	3.23	2.449	.919
	Adults	8.44	3.76		
Diet and Activity Capability Total Score	Young Adults	80.60	11.75	.405	.626
	Adults	79.28	13.77		

Abbreviations: F: distribution, p-value: probably, significant at 0.05, high significant at 0.01, SD: standard deviation, in depended t-rest.

The result showed no difference between nurses' level of education groups and of the activity and diet capability for Nurses due to p-value more than 0.05, except with Physical activity convenience (.004) there are a statistical significant difference (Table 4.5)

Table 4.5 Differences between of the activity and diet capability of nurses' level of education.

VARIABLES		MEAN	SD*	F	P*	P1*	P2*	P3*
Diet capability total scores	High school of nursing	48.50	7.07	.423	.656			
	Technical nurse	46.79	6.68					
	Lisans and above	46.76	7.31					
Diet opportunity	High school of nursing	18.75	2.91	1.244	.292			
	Technical nurse	17.45	3.08					
	Lisans and above	18.19	3.54					
Diet obstacles	High school of nursing	8.00	2.61	.777	.462			
	Technical nurse	8.64	2.64					
	Lisans and above	8.06	2.72					
Diet knowledge	High school of nursing	12.31	2.68	.872	.421			
	Technical nurse	11.42	2.50					
	Lisans and above	11.32	2.92					
Diet time	High school of nursing	9.44	3.10	.058	.944			
	Technical nurse	9.28	2.70					
	Lisans and above	9.19	2.58					
Activity capability total scores	High school of nursing	32.25	7.87	.1178	.311			
	Technical nurse	32.45	7.92					
	Lisans and above	34.41	7.07					
Physical activity convenience	High school of nursing	7.06	3.49	5.872	.004	.151	.003	.018
	Technical nurse	8.28	3.06					
	Lisans and above	9.60	2.73					
Neighborhood	High school of nursing	15.19	4.56	1.171	.313			
	Technical nurse	15.89	3.92					
	Lisans and above	16.76	4.35					
Physical activity barriers	High school of nursing	10.00	4.21	2.282	.106			
	Technical nurse	8.28	3.33					
	Lisans and above	8.05	2.99					
Diet and activity capability total score	High school of nursing	80.75	12.41	.371	.690			
	Technical nurse	79.25	12.24					
	Lisans and above	81.17	12.06					

*One way ANOVA

P1: posthoc test (Bonferroni correction) for pairwise comparison of the first and second groups,

P2: posthoc test (Bonferroni correction) for pairwise comparison of the first and third groups,

P3: posthoc test (Bonferroni correction) for pairwise comparison of the second and third groups.

The result showed no statistically significant difference between department work and of the physical activity capability and diet capability for nurses due to p-value more than 0.05. (Table 4.6).

Table 4.6 Differences between the activity and diet capability for nurses' department work.

VARIABLES	DEPARTMENT	MEAN	SD*	F*	P*
Diet capability total scores	Medical	47.09	6.23	3.670	.807
	Surgical	46.77	8.41		
Diet opportunity	Medical	18.11	3.22	1.429	.457
	Surgical	17.66	3.47		
Diet obstacles	Medical	8.10	2.59	.334	.261
	Surgical	8.66	2.82		
Diet knowledge	Medical	11.44	2.68	.266	.840
	Surgical	11.55	2.85		
Diet time	Medical	9.43	2.66	.047	.292
	Surgical	8.91	2.69		
Activity capability total scores	Medical	32.84	7.20	.342	.261
	Surgical	34.41	8.12		
Physical activity convenience	Medical	8.72	2.97	.154	.795
	Surgical	8.86	3.30		
Neighborhood	Medical	15.75	4.19	.018	.070
	Surgical	17.16	4.15		
Physical activity barriers	Medical	8.38	3.44	1.258	.985
	Surgical	8.39	3.11		
Diet and activity capability total score	Medical	79.93	11.00	2.231	.578
	Surgical	81.18	14.18		

*independent t test, F: distribution, SD: standard deviation, p-value

The result showed no difference between chronic disease groups activity capability and diet capability, for nurses due to p-value more than 0.05, except with physical activity convenience (.026), physical activity barriers (.038) there are a statically significant difference (Table 4.7).

Table 4.7 Differences between the activity capability and diet capability for nurses' chronic disease

VARIABLES	CHRONIC DISEASE	MEAN	SD*	F*	P*
Diet Capability Total Scores	No	47.26	7.10	.672	.279
	Yes	45.37	6.30		
Diet opportunity	No	18.10	3.36	1.211	.252
	Yes	17.16	2.83		
Diet obstacles	No	8.28	2.76	2.065	.961
	Yes	8.32	2.14		
Diet knowledge	No	11.58	2.73	.038	.316
	Yes	10.89	2.71		
Diet time	No	9.30	2.58	1.641	.652
	Yes	9.00	3.27		
Physical Activity Capability Total Scores	No	33.47	7.80	2.737	.696
	Yes	32.74	5.73		
Physical activity convenience	No	9.01	3.04	.216	.026
	Yes	7.32	2.91		
Neighborhood	No	16.33	4.31	.613	.476
	Yes	15.58	3.59		
Physical activity barriers	No	8.13	3.24	.023	.038
	Yes	9.84	3.50		
Diet and activity capability total score	No	80.73	12.63	2.616	.385
	Yes	78.11	8.35		

Abbreviations: F: distribution, p-value: probably, significant at 0.05, high significant at 0.01, SD: standard deviation, independent t test

The result showed no difference between BMI and the activity and diet capability for nurses due to p-value more than 0.05, (Table 4-8).

Table 4.8 Differences between the activity and diet capability and nurses' body mass index.

VARIABLES	BMI*	M*	SD*	F*	P*
Diet capability total scores	Normal weight	47.48	6.84	.588	.557
	Over weight	46.12	6.84		
	Obesity	47.56	8.30		
Diet opportunity	Normal weight	18.10	3.34	.308	.736
	Over weight	17.67	3.20		
	Obesity	18.25	3.59		
Diet obstacles	Normal weight	8.37	2.78	.170	.844
	Over weight	8.29	2.42		
	Obesity	7.94	3.04		
Diet knowledge	Normal weight	11.61	2.85	.178	.837
	Over weight	11.31	2.44		
	Obesity	11.44	3.12		
Diet time	Normal weight	9.39	2.73	1.148	.320
	Over weight	8.86	2.72		
	Obesity	9.94	2.24		
Activity capability total scores	Normal weight	32.52	8.23	1.080	.343
	Over weight	34.59	6.59		
	Obesity	33.13	7.04		
Physical activity convenience	Normal weight	8.28	3.19	2.269	.108
	Over weight	9.49	2.69		
	Obesity	8.56	3.41		
Neighborhood	Normal weight	15.96	4.67	.284	.753
	Over weight	16.55	3.80		
	Obesity	16.31	3.48		
Physical activity barriers	Normal weight	8.28	3.32	.104	.901
	Over weight	8.55	3.41		
	Obesity	8.25	3.26		
Diet and activity capability total score	Normal weight	80.00	12.28	.056	.946
	Over weight	80.71	11.75		
	Obesity	80.69	13.25		

One way ANOVA, F: distribution, SD: standard deviation, p-value

5. DISCUSSION

According to the study's results, the number of nurses male was equal to the female. In terms of age, this study's results reveal that the majority of nurses were young. In terms of education level, the majority of nurses were Technical nurse, specialist nurses were the minority of samples, and the rest samples distributed between academic nurse and high school of nursing. Were according to the findings of this survey, the majority of nurses were medical department while surgical department were the minority of samples. According to the findings of this research that the majority of nurses were had no chronic diseases. In terms of Body mass index, the majority of nurses were normal weight, while overweight were moderate and obesity they were the lowest precentage. The nurses mean diet capability total scores was moderate. The subscale with the highest average is diet opportunity. The mean of physical activity capability total scores for nurses was low. Among the physical activity capacity sub parameters, the highest mean was in the neighborhood. There are a difference of physical activity capability in gender groups. Physical activity capability is statiscaly higher in male group than female group. The result showed difference between nurses' education of level groups and physical activity convenience. It was found that the total scores of physical activity and diet capability of nurses with and without chronic disease were similar. Physical activity convenience and physical activity barriers mean score is higher at nurses with chronic disease than healthy group. Physical activity and diet capability total scores of nurses classified as normal, overweight and obese according to body mass index and all sub-units of the scale were found to be similar.

Distribution of the diet capability and physical activity capability scores for nurses. It has been shown from the analysis of diet capability total that the majority of nurses' mean diet capability total score was moderate. The subscale with the highest average is diet opportunity. The subscale with the low average is diet obstacles and diet knowledge showed. The main factor affecting diet was the complex cycle between lack of breaks at work, hunger, and decreased self-control, leading to overeating and/or making unhealthy choices. This provided insight into why long shifts and night shifts were previously portrayed as a barrier (Person and Mårtensson 2006). Night shift nurses have

been described as more likely to adopt abnormal eating behaviors, such as consuming high-fat foods and snacks (Wong *et al.* 2010). As with a previous study, participants associated night shift work with increased body mass over time (Zhao *et al.* 2011). The demands of work and the consequent fatigue discouraged nurses from being active after work and during their days off. The result showed a mean of the physical activity total scores for nurses was low. Among the physical activity capacity sub-parameters, the highest mean was in the neighborhood. Participants reported that having the necessary knowledge of healthy behaviors was not sufficient to address these barriers. Discuss the need for a worker health protection program that can help them overcome their barriers and encourage them to improve their diet and behavior (researcher). This finding is supported by (Torquati *et al.* 2017). The present article review concluded that the study showed most of the participants were physical activity the neighborhood. Nurses' poor dietary habits and low levels of physical activity put them at an increased risk of developing chronic diseases and should therefore be prioritized as a target group for health promotion initiatives in the workplace. Nurses' health can challenge recruitment and retention rates, which have a significant impact on healthcare delivery. Health affects absenteeism, which increases work stress for employees who are left behind. In turn, this negatively affects the motivation of the remaining employees to go to work (researcher).

The result showed no differences between gender and diet capability for Nurses, but there are differences in physical activity capability in gender groups. Physical activity capability is statistically higher in the male group than in the female group. The results of the study disagreed with (Torquati *et al.* 2016) reviewed that most of the sample was female that the Work environment was the main barrier to healthy diet behavior. While at same study appeared to equal index in gender between males and females, also agreed with (Torquati *et al.* 2016). Discovered that Fatigue was the main barrier for Physical activity. The researcher opinion diet behaviour depends on need of person for eating while physical activity is different according to the type of activities and normal of working specific for gender, thus the male consuming activities more than female as normality of body building and thick of muscles.

Difference between of the physical activity capability and diet capability for nurses' age groups. The result showed no statically significant difference between nurses' age groups and the activity and diet capability of nurses. The finding of the study (Butler 2014) demonstrated that over 50% of nurses had moderately healthy diets but were insufficiently active. The finding of the study disagreed with (Happell *et al.* 2014) showed correlations were found between the psychological constructs measured and both physical activity and nutrition in average age 41 years. The results disagreed with (Samhat *et al.* 2020) revealed that BMI and waist circumference in both women and men increased proportionally with the number of years of experience. The researcher thinks that physical activity and the capability to diet depend to a large extent on the person himself. In addition, the highest percentage of participants in the research were from the youth category.

Differences between of the activity and diet capability for nurses' level of education. showed no difference between nurses' level of education groups and of the activity capability and diet capability for Nurses, except with Physical activity convenience there are a relationship The results of study disagreed with (Torquati *et al.* 2017) revealed that most of his sample bachelor in nursing and appeared after a period of time, and specialised diet intake significantly increased with those in that educational level whereas PA significantly decreased. This result was not expected, but it was according to the assessment of the nurses participating in the study. Also, perhaps dietary habits and physical activity were not affected by the educational level, at least for the time being.

Differences between the activity and diet capabilty for nurses' department work. showed no difference between department work and physical activity capability and diet capability for nurses. The results of the study disagreed with (Happell *et al.* 2014) showed that most of the nurses that work in different areas of hospitals are physically active and seemed to be consuming nutritious diets. The researcher's opinion is that there the nurses participating in the questionnaire work in the surgical and medical department, and there is no significant difference in the effort expended, which in turn affects the amount of food consumed.

Differences between the activity and diet capability for nurses' chronic disease. The result showed no difference between chronic disease groups' physical activity and diet capability, except for Physical activity barriers and physical activity convenience there is a statically significant difference. The finding of the study agreed with (Al-Shwaiya 2013) and revealed that revealed that chronic nurses like with cardiovascular disease have a significant response to therapeutic nutritional knowledge while the study does not appear related to physical activity. Also, this study agreed with (Fenjan and Khudur 2022) that revealed there are a significant relationship between chronic diseases and physical activity. The researcher thinks that chronic disease appears to affect physical activity and weak desire to diet capability related chronic disease status but nurses with chronic diseases have knowledge of the nutritional facts that suit their health condition.

There are no difference between BMI and activity and diet capability for Nurses. The result was not expected for the research, but this result was obtained through the personal assessment of the nurses participating in the questionnaire, and these results were mentioned here. The result of the study disagreed with (Torquati 2016). who showed in a systematic review study that Six studies reported significant intervention effects in either energy expenditure or physical activity levels, While the Two studies reported improved body composition without significant changes in diet or PA. The finding of a study disagreed with (Almajwal 2015). The eating behavior of shift workers may be further altered due to the differences between their daily meal pattern at work and those of family and friends. The limited food choices available during the night shift could also contribute to poor eating habits. A recent review indicated that shift work is a factor in nurses' risk for obesity and revealed a significant relationship. The results disagreed with (Samhat *et al.* 2020) showed no significant relationships were found between BMI and the capability of physical activity and an increase in BMI is not related to eating habits

6. CONCLUSION AND RECOMMENDATION

6.1 Conclusion

According to the study's findings, the following conclusions were reached:

The nurses mean diet capability total scores was moderate. The subscale with the highest average is diet opportunity.

The mean of physical activity capability total scores for nurses was low. Among the physical activity capability sub parameters, the highest mean was in the neighborhood.

There are a difference of physical activity capability in gender groups. Physical activity capability is higher in male group than female group.

The result showed difference between nurses' education of level groups and physical activity convenience.

It was found that the total scores of physical activity and diet capability of nurses with and without chronic disease were similar. Physical activity convenience and physical activity barriers mean score is higher at nurses with chronic disease than healthy group.

Physical activity and diet capability total scores of nurses classified as normal, overweight and obese according to body mass index and all sub-units of the scale were found to be similar.

6.2 Recommendation

Based on the early of the list conclusions, the study recommended that:

1. Promoting educational training workshops aimed at improving nurses' diet and Preparing educational programs on the dangers and complications of bad eating habits, body lethargy, and its harm to health and nursing care performance.
2. It is necessary to include nursing staff in sports programs and encouraging them to increase physical activity, which reflects positively on their health and appearance.
3. Increasing health awareness about physical activity for women through educational courses, providing time to exercise, and also encouraging joining sports clubs to increase physical activity to improve physical health.
4. Guiding nurses who suffer from chronic diseases about specific exercise programs that suit their health condition.
5. Providing an educational package, brochure, or movie to each nurses.
6. The study proposes that further specialized research in the field of nurses' activity capability and diet of nurses.be conducted.

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APPENDICES

APPENDIX 1. Final form

APPENDIX 2: Ethical commitment and Approval of Thesis Sample (in language of Turkish)



APPENDIX 1. Final form







APPENDIX 2: Ethical commitment and approval of thesis sample (in language of Turkish)



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